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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,707	01/17/2002	Mark Sandford	LS/0015.01	1392

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JOHN A. SMART
708 BLOSSOM HILL RD., #201
LOS GATOS, CA 95032

EXAMINER
NGUYEN, HAU H

ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 10/27/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/052,707	SANDFORD, MARK
	Examiner	Art Unit
	Hau H Nguyen	2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _03_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *17 January 2002* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-26* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2.   Claim 11 recites the limitation "each of the values". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.   Claims 1-4, 8-15, 19-20, 23-26 are rejected under 35 U.S.C. 102(a) as being anticipated by Watkins (U.S. Patent No. 4,954,819).

Referring to claims 1, 2, 15, 19-20, 23-26, Watkins teaches a data management system drives a multiple-window dynamic display wherein as shown in Fig. 4, comprising a multiplexer 76 selectively passes image data for a pixel from the buffer side 20A, the buffer side 20B, or background from the window look-up table 80. The selection is controlled by the window look-up table 80 which receives control data from the window frame buffer 24, each of the valid data buffers V1, V2, and V3, and the window control engine 82. Thus, the window look-up table 80 is a key control element of the apparatus. The table 80 in conjunction with the window frame buffer 24 and the valid data buffers V1, V2, and V3 allow swapping between the buffer sides

20A and 20B and effective clearing of individual windows to be executed quickly

accommodating the time demands of an effective, dynamic multiple window display (col. 7,

lines 29-44). V1, V2, and V3 are specifically allocated with respect to each area of a window

(col. 8, lines 60-62). As shown in Fig. 5, Watkins teaches the cycle of operation wherein data is

being written (loaded) into image buffer side B at the beginning of the cycle. Concurrently,

binary bits are being set in the valid data buffer V3. The contents of the valid data buffer V2 for

this window is being cleared, and an image is being displayed from the buffer side A. At the

same time, image background is being determined by addressing the valid data buffer V1. The

operation continues until such time as a "swap" is commanded. After a "swap", fresh image data

is written into the image buffer side A, binary bits are set in the valid buffer V2 for the display,

the appropriate contents of the buffer V1 are cleared, and the buffer V3 is active, e.g. to provide

the selection of background data. Display is provided from the image buffer side B. Thus, as

illustrated in FIG. 5, after each swap, the rotation occurs with the consequence that an orderly

progression of functions is sequenced (col. 9, lines 15-34), and thus, as can be seen from Fig. 5,

there are always two buffers of V1, V2, and V3 available, which implies two windows are

always available.

In regard to claims 3 and 4, Watkins teaches that image can be very large for a digital

signal processor (col. 5, lines 54-58), and thus the image can be a mega pixel image.

Referring to claim 8, Watkins teaches the table 80 supplies the default background color

for areas (col. 7, lines 21-23), which is not directly accessible to the picture system (processor)

(please see Figs. 1 and 4).

In regard to claims 9 and 10, as cited above, Watkins teaches the image can be very large, and regardless of the size of the image, the processor cannot access the image directly as shown in Figs. 1 and 4.

Referring to claims 11-14, as shown in Figs. 3A and 3B, the image as taught by Watkins can be spread in both vertical and horizontal direction.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 5-7, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins (U.S. Patent No. 4,954,819).

Referring to claims 5 and 6, Watkins teaches the number, size, and shape of windows may vary (col. 3, lines 33-35). Therefore, it would have been obvious to one skilled in the art to modify the size of window as taught by Watkins into 8 X 8 pixels so that dividing window portions is made easier in accordance with the screen resolution.

In regard to claim 7, although Watkins does not teach using DRAM for the background memory, it is well known in the art to use DRAM for storing data because DRAM is cheaper and take up less space, also supporting refreshing.

In regard to claims 17 and 18, as cited above, Watkins teaches the number of windows may vary. Therefore, it would have been obvious to one skilled in the art to add more windows

for loading background in the memory space of the processor in order to save time for loading,

and thus, swapping is performed faster.

7.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins (U.S.

Patent No. 4,954,819) in view of Stam et al. (U.S. Patent No. 6,631,316).

Referring to claim 16, as applied to claim 15, Watkins teaches all the limitations of claim

16, except filtering of an image of given size.

However, Stam et al. teach a digital image processing filter implemented by storing a

most recent group of pixels and performing the filter algorithm on this group of pixels (col. 2,

lines 30-36).

Therefore, it would have been obvious to one skilled in the art to utilize the method of

filtering as taught by Stam et al. in combination with the method as taught by Watkins in order to

reduce the total amount of memory required in the system (col. 2, lines 1-2).

8.   Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Watkins (U.S. Patent No. 4,954,819) in view of Lupien et al. (U.S. Patent No. 6,463,481).

Referring to claims 21 and 22, as applied to claim 19, Watkins teach all the limitations of

claims 21 and 22, except for a DMA for generating an interrupt when loading image is complete.

However, Lupien et al. teach a direct memory access method wherein as shown in Fig. 4,

when image have completely loaded, the DMA generates an interrupt (step 338) (col. 6, lines 1-

5).

Therefore, it would have been obvious to one skilled in the art to utilize the method as

taught by Lupien et al. in combination with the method as taught by Watkins in order to store,

retrieve, and process image faster (col. 3, lines 60-62).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. See PTO-892 form.

Nakagawa (US. Patent No. 5,854,628) discloses a window display processing apparatus

comprising a plurality of window ID information storages for storing window ID information for

identifying a window pixel by pixel of each frame buffer; a switching section for selecting a

window to be displayed.

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The

examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew Bella can be reached on 703-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:

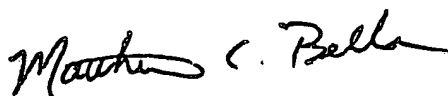(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office whose

telephone number is (703) 306-0377.

H. Nguyen

10/16/2003

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600